

BLUE

Dart Aerospace Ltd.

Date: Friday, 13/06/2008 10:45:49 AM  
 User: Julie Becocq

Ship 04/07

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : 206L FWD X-TUBE
<b>Job Number</b> : 39851	
<b>Estimate Number</b> : 10553	
<b>P.O. Number</b> :	<b>Part Number</b> : D206667103BL
<b>This Issue</b> : 13/06/2008 <b>S.O. No.</b> :	<b>Drawing Number</b> : D206-667-143 REV B + DSI 9415 <sup>REV</sup> 08.06.13
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : / / <b>Type</b> : LANDING GEAR	<b>Drawing Revision</b> :
<b>Previous Run</b> : 39846	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 30/06/2008 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>JUL 08.6.13</u>	
<b>Comment</b> : Est Rev:F 05.09.01 Add holes for compatibility with Bell Skidtubes KJ/JLM	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0

DC

DOCUMENT CONTROL



*Schedule*



*JD*  
08.6.16

**Comment:** DOCUMENT CONTROLPhotocopy bluefile and create labels as per PPP D206-667-103 CHG002 <sup>REV</sup> CHG 003 + DSI 9415 08.06.13

2.0

D6002115

Crosstube Material

**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6002-115 Crosstube

Check OD = 2.250"; ID = 1.750"

*See work order & staples on back*

3.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE

**Comment:** MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand &amp; install plugs DT8534 on both ends as per Folio FA087

2-Turn first side as per Folio FA087

3-Deburr &amp; inspect for surface damage. Repair damage within limits as per Dwg D206-667-143.

4.0

QC1

INSPECT ALL DIM TO DIM SHEET

**Comment:** INSPECT ALL DIM TO DIM SHEET

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L FWD X-TUBE

Job Number: 39851

Part Number: D206667103BL

Job Number:



Seq. #:	Machine Or Operation:	Description :
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5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA087

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-143.

3-Remove sand and plugs

4-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-143

Inside of Cuff(Donot engrave on outside of tube)

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

8.0

SKIDTUBES 1

SKIDTUBESS RESOURCE T



Comment: LANDING GEAR RESOURCE 1

1-Polish entire outside surface of crosstube

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

11.0

BENDING

BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

Bend tube as per Dwg D206-667-143 using CNC bender program 206L-fw and Folio FT017

W/O:		WORK ORDER CHANGES					
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User: Julie Lecocq

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Drawing Name: 206L FWD X-TUBE

Job Number: 39851

Part Number: D206667103BL

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

*See work order stapled on Back*

13.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8541 & DT8542 as per Dwg D206-667-143

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8787AFT as per Dwg D206-667-143.

8-C'sink holes as per Dwg D206-667-143. Allow rivet to sit below surface to compensate for paint.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-143

*IT  
08-06-17*

14.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*IT 08-06-17*

15.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*08/06/18 (A)*

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*08/06/18 (A)*

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Part Number: D206667103BL

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

OUTSIDE SERV.10

OUTSIDE SERVICES -skids



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038Or

Issue P/O: 6598 LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

1208/06/19 (1)

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order.

12/06/19 (1)

19.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D206-667-103

ml 08 06 24

(1)

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

ml 08 06 24 (1)

21.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

080625 (1)

22.0

B2856400

Abrasion Strip



Comment: Qty.: 1.2138 f(s)/Unit Total: 1.2138 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 6.94") Abrasion Strip

Time: 10:30am  
exp: 08/2009

Maghoband 6398 B 107621

4 x D3595-075-395 B 38959

08.06.13

Rubber Cushion

ml 08 06 25

23.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-043 Nut Plate 37941

ml 08 06 26

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
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Job Number: 39851

Part Number: D206667103BL

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-045 Nut Plate 37341

ml 08 06 26

25.0

D28911

2.25 Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2891-1 Support 39835

ml 08 06 25

26.0

MS20601AD4W8

RIVET



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Pick:

Qty Part number Description Batch

14 MS20601AD4W8 Rivet 107008

ml 08 06 26

27.0

MS2192020

Clamp (per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-20 Clamp 106484

ml 08 06 25

28.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

magna bond

1-Install abrasion strips as per OSI 035 using DT8570. Note: (2) Aft holes should be facing up.

ml 08 06 25 (1)

2-Install supports and clamps as per Dwg D4206-667-143. Torque clamps to 80-100 in lb

ml 08 06 26 (1)

3-Install nut plates as per Dwg D206-667-143. Touch-up rivet heads with Imron paint.

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Drawing Name: 206L FWD X-TUBE

Job Number: 39851

Part Number: D206667103BL

Job Number:



Seq. #:

Machine Or Operation:

Description :

29.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

2080626 @

30.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

31.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bolt

Batch: 106519

54

32.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Nut

Batch: 107939

50

33.0

AN57A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description

Batch

10 AN5-7A

Bolt

107013

54

34.0

AN530A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description

Batch

4 AN5-30A

Bolt

105144

54

35.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total: 18.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description

Batch

18 AN960JD516

Washer

107939

86/56

54

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Drawing Name: 206L FWD X-TUBE

Job Number: 39851

Part Number: D206667103BL

Job Number:



Seq. #:

Machine Or Operation:

Description :

36.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

08/06/26 @

37.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-667-103

Location: \_\_\_\_\_

PPP Rev: \_\_\_\_\_

C

CHG 003 Rev  
08.06.13

08/06/26

38.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/06/26

Job Completion



mf 08-06-26

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 39851
<b>Description:</b> Crosstube Assembly (206L High Fwd)		<b>Part Number:</b> D206-667-143
<b>Inspection Dwg:</b> D206-667-143 <b>Rev:</b> B		<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article     ☐ Prototype

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000					
	1.982	+0.005/-0.000					
	2.019	+0.005/-0.000					
	2.058	+0.005/-0.000					
	2.097	+0.005/-0.000					
	2.136	+0.005/-0.000					
	2.176	+0.005/-0.000					
	2.201	+0.005/-0.000					
	0.125	+/-0.010					
	0.400 x 30°	+/-0.010					
	R0.063	+/-0.010					
	R0.500	+/-0.010					
	4.438	+/-0.030					
SIDE B	104.98	+/-0.020					
	2.240	+0.005/-0.000					
	1.982	+0.005/-0.000					
	2.019	+0.005/-0.000					
	2.058	+0.005/-0.000					
	2.097	+0.005/-0.000					
	2.136	+0.005/-0.000					
	2.176	+0.005/-0.000					
	2.201	+0.005/-0.000					
	0.125	+/-0.010					
	0.400 x 30°	+/-0.010					
	R0.063	+/-0.010					
	R0.500	+/-0.010					
	4.438	+/-0.030					

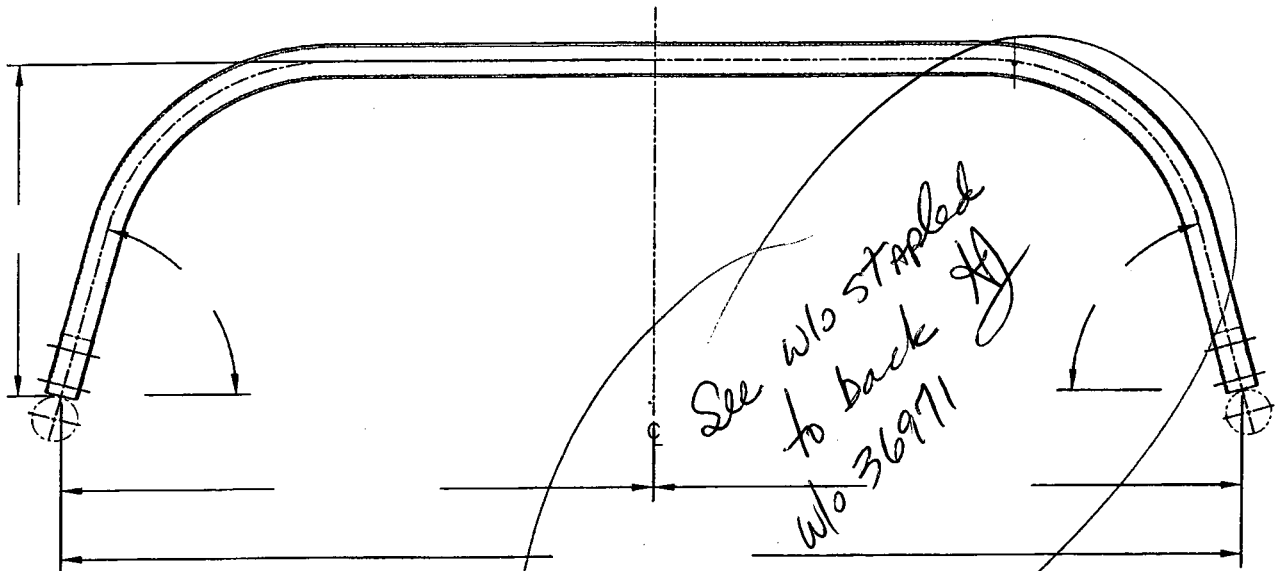
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 back  
 w/036971

<b>Measured by:</b>		<b>Audited by:</b>		<b>Prototype Approval:</b>	N/A
<b>Date:</b>		<b>Date:</b>		<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	04.05.06	New Issue (P/O D206-667-103)	KJ/RF	
B	06.03.09	Dwg Rev updated	KJ/JLM	

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 39851
<b>Description:</b> Crosstube High Fwd (206L)		<b>Part Number:</b> D206-667-103
<b>Inspection Dwg:</b> D206-667-143 <b>Rev:</b> B		<b>Page 1 of 1</b>

Required Dimension	Min	Max
Height	23.46	23.58
1/2 Span	41.86	41.98
Angle	54	56
Total Span	83.72	83.96



Comments

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	<i>[Signature]</i>



**DART**

DESIGN PH	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED HDS	APPROVED HDS	DRAWING NO. D206-667-143	REV. B SHEET 1 OF 3
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (206L HIGH FWD) NTS	
A	00.11.17	NEW ISSUE	
B	05.07.26	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED  
05.07.26 H**UNDER REVIEW**06.08.10 PH  
re-drawn detail F  
PH 01.06.13

Qty	Part Number	Description
X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
1	D6002-115	CROSSTUBE
2	D2873-043	NUT PLATE
2	D2873-045	NUT PLATE
2	D2856-400-694	ABRASION STRIP
2	D2891-1	SUPPORT
14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
4	MS21920-20	CLAMP

4 D3595-075-395 RUBBER CUSHION PH 06.06.13

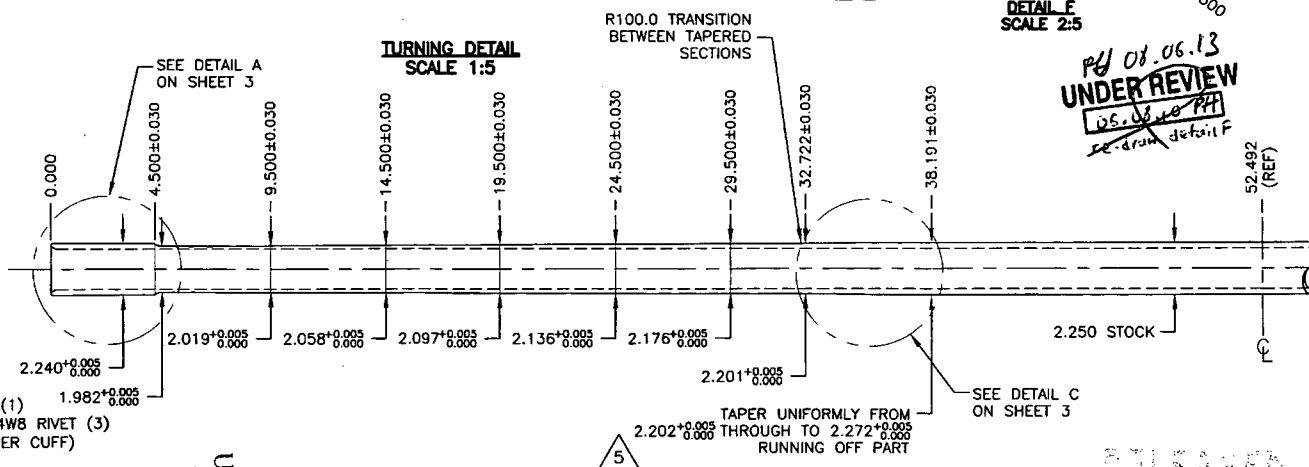
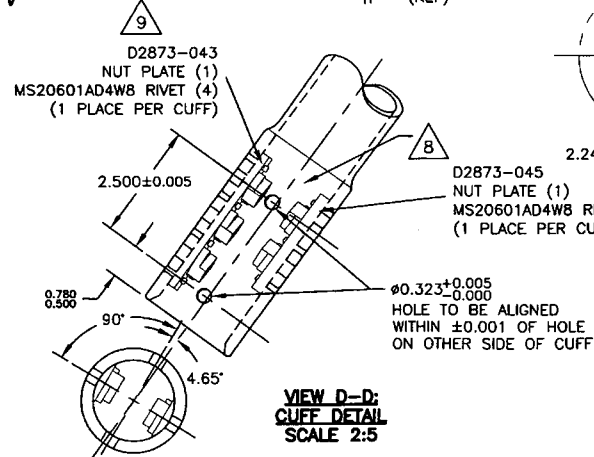
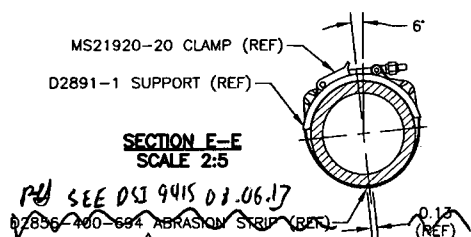
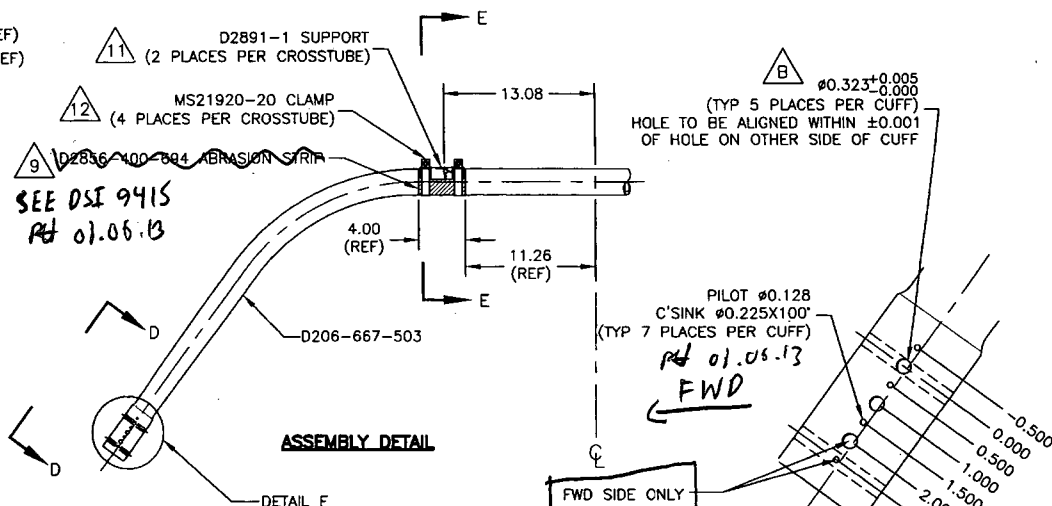
**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6002-115  
FINISHED LENGTH = 104.98±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-694 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2891-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

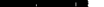
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WITHOUT NOTICE  
WORK ORDER  
NO. 39851

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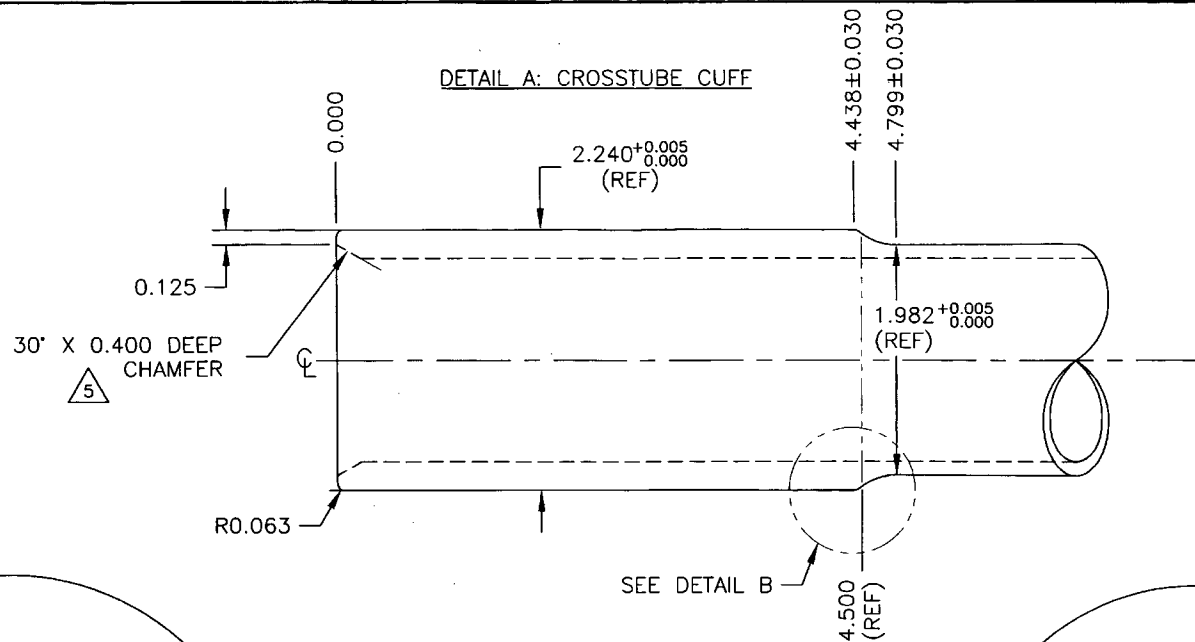
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	PH	PH	
	CHECKED	APPROVED	
4 DS	4 DS	DRAWING NO.	REV. B
		D206-667-143	SHEET 2 OF 3
DATE		TITLE	SCALE
05.07.26		CROSSTUBE ASS'Y (206L HIGH FWD)	1:10

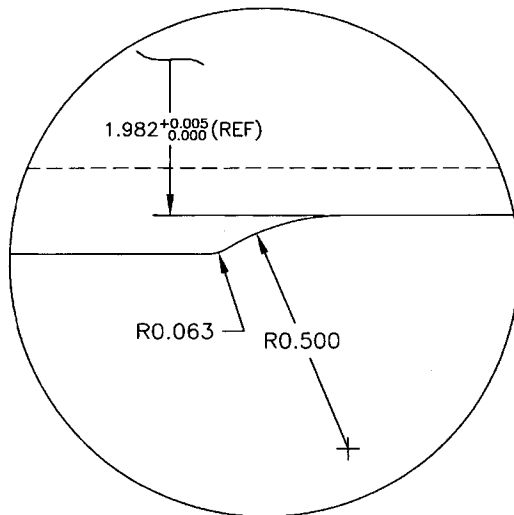
05.07.26 #

PH 08.06.13  
 UNDER REVIEW  
 06.08.10 PH  
 re-check detail F

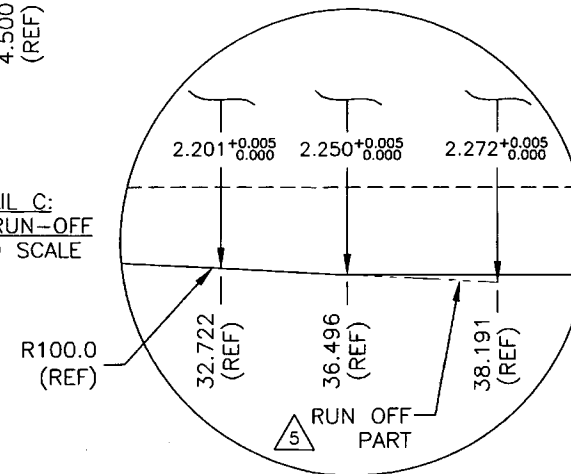
DETAIL A: CROSTUBE CUFF



DETAIL B: CUFF  
 TRANSITION  
 SCALE 4:1



DETAIL C:  
 TAPER RUN-OFF  
 NOT TO SCALE



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COPYRIGHT © 2000 BY DART AEROSPACE LTD.		DESIGN PH	DRAWN BY PH	<b>DART</b>	DART AEROSPACE LTD. WARRICKSURY, ONTARIO, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED # DS	APPROVED # DS	DRAWING NO. D206-667-143	REV. B SHEET 3 OF 3
DATE 05.07.26		TITLE CROSTUBE ASS'Y (206L HIGH FWD)		SCALE 1:1	

# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D206-667 REV. C AND  
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D206-667 REV. 2

REF: CANADIAN STC: SH01-5  
REF: FAA STC: SR01304NY

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For D206-667-101/-201/-103/-203 or D407-667-105 cross tubes at CHG 003 or later, the D2856-400-694/773 abrasion strip has been removed, the center D2891-1 or D2892-1 support has been bonded onto the crosstube using Magnabond 6398 and D3595-075-395/-450 Rubber Cushions have been installed underneath the MS21920-20/-22 Clamps. Amend parts list of the IIN-D206-667 section 5 and ICA-D206-667 Section 32.8 as follows:

## REMOVE:

ITEM	QTY -101	QTY -201	QTY -103	QTY -203	QTY -105	PART NUMBER	DESCRIPTION
13	2	2	2		2	D2856-400-694	ABRASION STRIP
14				2		D2856-400-773	ABRASION STRIP

## ADD:

ITEM	QTY -101	QTY -201	QTY -103	QTY -203	QTY -105	PART NUMBER	DESCRIPTION
24	4	4	4		4	D3595-075-395	RUBBER CUSHION
25				4		D3595-075-450	RUBBER CUSHION

To prevent the supports from shifting on the D206-667-101/-201/-103/-203 or D407-667-105 crosstubes at CHG 002 or earlier, the D2891-1/D2892-1 supports should be removed and re-installed as follows:

- 1) Follow section 32.1 of ICA-D206-667 for the removal of the crosstubes from the helicopter.
- 2) Remove the qty (2) MS21920-20/-22 clamps from the crosstube that fasten the D2891-1/D2892-1 supports to the crosstube.
- 3) Remove the D2856-400-694/-773 abrasion strip from the crosstube per section 32.5 of ICA-D206-667.
- 4) Inspect the crosstube surface underneath the support for corrosion and mechanical damage per items 5.3.1 and 5.3.2 of the 300 hour inspection of ICA-D206-667. Repair damage within acceptable limits per item 5.3.3 of the 300 hour inspection in ICA-D206-667. Touch up finish per item 5.3.9 of the 300 hour inspection.
- 5) Abrade area to which support will be applied with 400 grit sandpaper. Saturate a clean cloth with MEK or 4105S Wash'n'Wipe Degreaser or equivalent and wipe area until there is no residue.
- 6) Apply a 0.03" to 0.06" thick layer of Magnabond 6398 underneath the D2891-1/D2892-1 support and re-install the support on the crosstube as shown in Figure 1. Position and secure the D2891-1/D2892-1 support on the crosstube using MS21920-20/-22 Clamps. Install a D3595-075-395/-450 Rubber cushion underneath each MS21920-20/-22 Clamp. Torque clamps 80-100 in-lb. Let the D206-667-101/-201/-103/-203 or D412-667-105 crosstube assembly cure as per the Magnabond 6398 instructions before re-installing the crosstube on the aircraft.

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

### APPROVED

BY: D. Shepherd  
D. SHEPHERD (DE # 02)

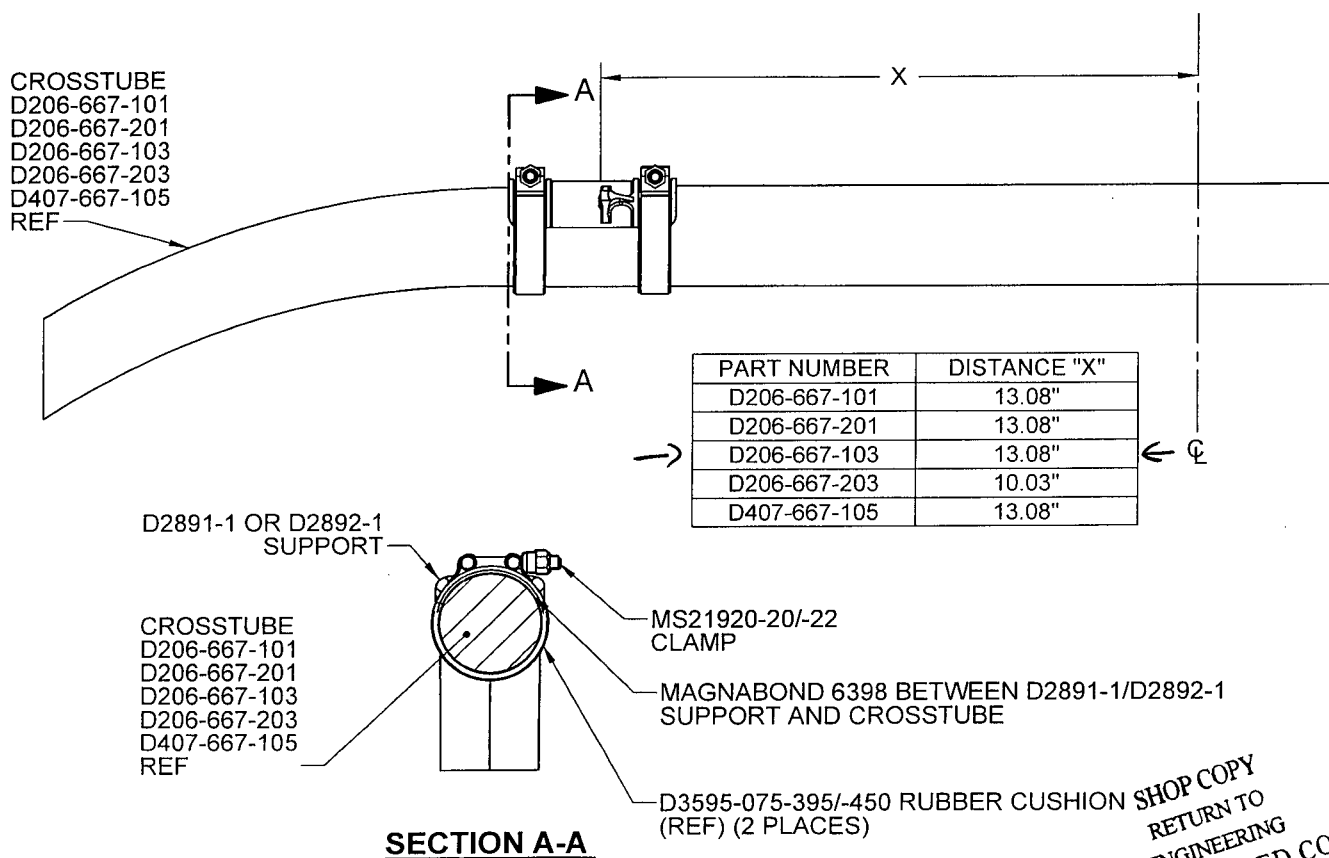
DATE: 08.05.26  
CERT. NO.: SH01-5  
ISSUE NO.: 3

A	NEW ISSUE	HS	08.05.26
REV.	DESCRIPTION	BY	DATE
DESIGN	HS	DART AEROSPACE LTD	
DRAWN	HS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	PH	DSI 9415	SHEET 1 OF 2
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	CROSSTUBE SUPPORT CHANGE	NTS
DATE	08.05.26	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

7) Re-install the D206-667-101/-201/-103/-203 or D412-667-105 crosstube per section 32.2 of ICA-D206-667.

For customers who would like to upgrade their D206-667-101/-201/-103/-203 or D412-667-105 crosstubes from CHG 002 or earlier to CHG 003, the following kit can be obtained from Dart:

QTY -011	QTY -013	PART NUMBER	DESCRIPTION
X		DSI 9415-011	CROSSTUBE SUPPORT CHANGE (USABLE ON D206-667-101/-201/-103 OR D407-667-105)
	X	DSI 9415-013	CROSSTUBE SUPPORT CHANGE (USABLE ON D206-667-203)
4		D3595-075-395	RUBBER CUSHION
	4	D3595-075-450	RUBBER CUSHION



**FIGURE 1 - CROSSTUBE SUPPORT**

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WORK ORDER  
NO. 39351

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

APPROVED

BY: *D. Shepherd*  
D. SHEPHERD (DE # 02)

DATE: 08.05.26  
CERT. NO.: SH01-5  
ISSUE NO.: 3

DESIGN	HS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	HS		
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	<i>PH</i>	DSI 9415	SHEET 2 OF 2
APPROVED	<i>PH</i>	TITLE	SCALE
DE APPR.	<i>PH</i>	CROSSTUBE SUPPORT CHANGE	NTS
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Date: Friday, 1/25/2008 10:51:37 AM  
User: Kim Johnston

# Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 206L FWD X-TUBE  
Job Number : 36971  
Estimate Number : 10553  
P.O. Number :  
This Issue : 1/25/2008 S.O. No. :  
Prsht Rev. : NC Part Number : D206667103  
First Issue : 1 / Type : LANDING GEAR Drawing Number : D206-667-143 REVB  
Previous Run : 36378 Drawing Revision :  
Material :  
Written By : Due Date : 3/10/2008 Qty: 1 Um: Each  
Checked & Approved By : 2008 01 25  
Comment : Est Rev F 05.09.01 Add holes for compatibility with Bell  
Skidtubes KJ/JLM

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D206-667-103 CHG002

2.0 D6002115 Crosstube material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6002-115 Crosstube B34684

Check OD = 2.250"; ID = 1.750"

20 08/03/04

3.0 MORI SEIKI MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA087

2-Turn first side as per Folio FA087

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-143.

20 08/03/04

4.0 QC1 INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

20 08/03/04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 10:51:37 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L FWD X-TUBE

Job Number: 36971

Part Number: D206667103

Job Number:



Seq. #:

Machine Or Operation:

Description:

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA087

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-143.

3-Remove sand and plugs

4-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-143

Inside of Cuff(Donot engrave on outside of tube)

29 08/03/04

(7)

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

29 08/03/04

(1)

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

29 08/03/06

(1)

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Polish entire outside surface of crosstube

AWM 8-3-11

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

29 08/03/11

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

JB 8-3-11

11.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D206-667-143 using CNC bender program 206L-fw and Folio FT017

DP 8-3-24



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 10:51:37 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L FWD X-TUBE

Job Number: 36971

Part Number: D206667103

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8541 & DT8542 as per Dwg D206-667-143

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8787AFT as per Dwg D206-667-143.

8-C'sink holes as per Dwg D206-667-143. Allow rivet to sit below surface to compensate for paint.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-143

14.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

15.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 10:51:37 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L FWD X-TUBE

Job Number: 36971

Part Number: D206667103

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038Or

Issue P/O: 6598 LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

*CL08/06/190*

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order.

19.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D206-667-103

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

21.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

22.0

D2856400

Abrasion Strip



Comment: Qty.: 1.2138 f(s)/Unit Total : 1.2138 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 6.94") Abrasion Strip

23.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-043 Nut Plate

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Friday, 1/25/2008 10:51:37 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L FWD X-TUBE

Job Number: 36971

Part Number: D206667103

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-045 Nut Plate

25.0

D28911

Support 2.25 dia



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2891-1 Support

26.0

MS20601AD4W8

RIVET



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Pick:

Qty Part number Description Batch

14 MS20601AD4W8 Rivet

27.0

MS2192020

Clamp (per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-20 Clamp

28.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8579. Note: (2) Aft holes should be facing up.

2-Install supports and clamps as per Dwg D4206-667-143. Torque clamps to 80-100 in lb

3-Install nut plates as per Dwg D206-667-143. Touch-up rivet heads with Imron paint.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 1/25/2008 10:51:37 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L FWD X-TUBE

Job Number: 36971

Part Number: D206667103

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

29.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

30.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Pick Packing Kit

31.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)  
Bolt  
Batch: \_\_\_\_\_

32.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)  
Nut  
Batch: \_\_\_\_\_

33.0

AN57A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)  
Pick:Packing Kit  
Qty Part number Description Batch  
10 AN5-7A Bolt \_\_\_\_\_

34.0

AN530A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)  
Pick:Packing Kit  
Qty Part number Description Batch  
4 AN5-30A Bolt \_\_\_\_\_

35.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)  
Pick:Packing Kit  
Qty Part number Description Batch  
18 AN960JD516 Washer \_\_\_\_\_



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Friday, 1/25/2008 10:51:38 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L FWD X-TUBE

Job Number: 36971

Part Number: D206667103

Job Number:



Seq. #:

Machine Or Operation:

Description :

36.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

37.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-667-103

Location: \_\_\_\_\_

PPP Rev: \_\_\_\_\_

38.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



*W 08-07-02*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	36971
<b>Description:</b> Crosstube Assembly (206L High Fwd)		<b>Part Number:</b>	D206-667-143
<b>Inspection Dwg:</b> D206-667-143 Rev: B		<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.245	✓			
	1.982	+0.005/-0.000	1.986	✓			
	2.019	+0.005/-0.000	2.024	✓			
	2.058	+0.005/-0.000	2.063	✓			
	2.097	+0.005/-0.000	2.102	✓			
	2.136	+0.005/-0.000	2.141	✓			
	2.176	+0.005/-0.000	2.181	✓			
	2.201	+0.005/-0.000	2.206	✓			
	0.125	+/-0.010	.125	✓			
	0.400 x 30°	+/-0.010	.400	✓			
	R0.063	+/-0.010	.063	✓			
	R0.500	+/-0.010	.500	✓			
	4.438	+/-0.030	4.438	✓			
SIDE B	104.98	+/-0.020	104.98	✓			
	2.240	+0.005/-0.000	2.245	✓			
	1.982	+0.005/-0.000	1.986	✓			
	2.019	+0.005/-0.000	2.024	✓			
	2.058	+0.005/-0.000	2.063	✓			
	2.097	+0.005/-0.000	2.102	✓			
	2.136	+0.005/-0.000	2.141	✓			
	2.176	+0.005/-0.000	2.181	✓			
	2.201	+0.005/-0.000	2.206	✓			
	0.125	+/-0.010	.125	✓			
	0.400 x 30°	+/-0.010	.400	✓			
	R0.063	+/-0.010	.063	✓			
	R0.500	+/-0.010	.500	✓			
	4.438	+/-0.030	4.438	✓			

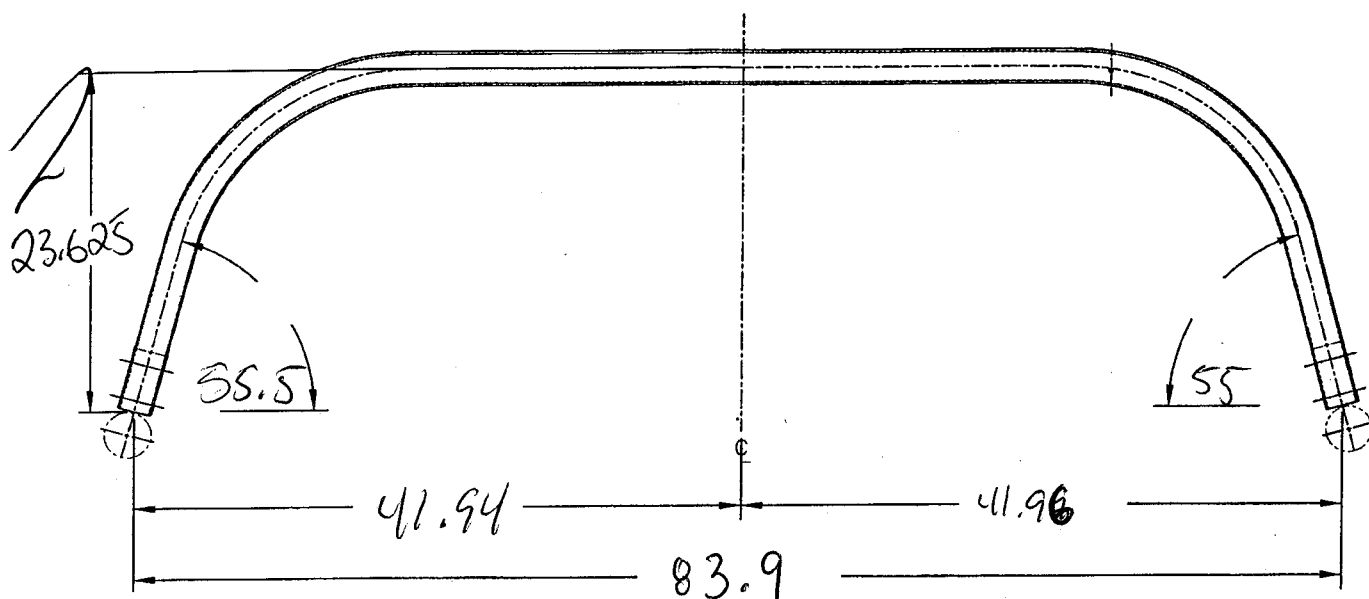
<b>Measured by:</b>	RD	<b>Audited by:</b>	CMH	<b>Prototype Approval:</b>	N/A
<b>Date:</b>	08/03/04	<b>Date:</b>	08/03/04	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	04.05.06	New Issue (P/O D206-667-103)	KJ/RF	
B	06.03.09	Dwg Rev updated	KJ/JLM	



DART AEROSPACE LTD		Work Order:	36971
Description: Crosstube High Fwd (206L)		Part Number:	D206-667-103
Inspection Dwg: D206-667-143 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	23.46	23.58
1/2 Span	41.86	41.98
Angle	54	56
Total Span	83.72	83.96



Comments

QC15 Inspection	08.06.17
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	<i>[Signature]</i>





DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED HDS	APPROVED HDS	DRAWING NO. D206-667-143	REV. B SHEET 1 OF 3
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (206L HIGH FWD) NTS	
A	00.11.17	NEW ISSUE	
B	05.07.26	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED  
05-07-26 H

UNDER REVIEW

05-08-10 PH

re-draw detail F  
PH

07.05.02

Qty	Part Number	Description
X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
1	D6002-115	CROSSTUBE
2	D2873-043	NUT PLATE
2	D2873-045	NUT PLATE
2	D2856-400-694	ABRASION STRIP
2	D2891-1	SUPPORT
14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
4	MS21920-20	CLAMP

#### GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6002-115  
FINISHED LENGTH = 104.98±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLOS.
- 9) INSTALL D2856-400-694 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2891-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

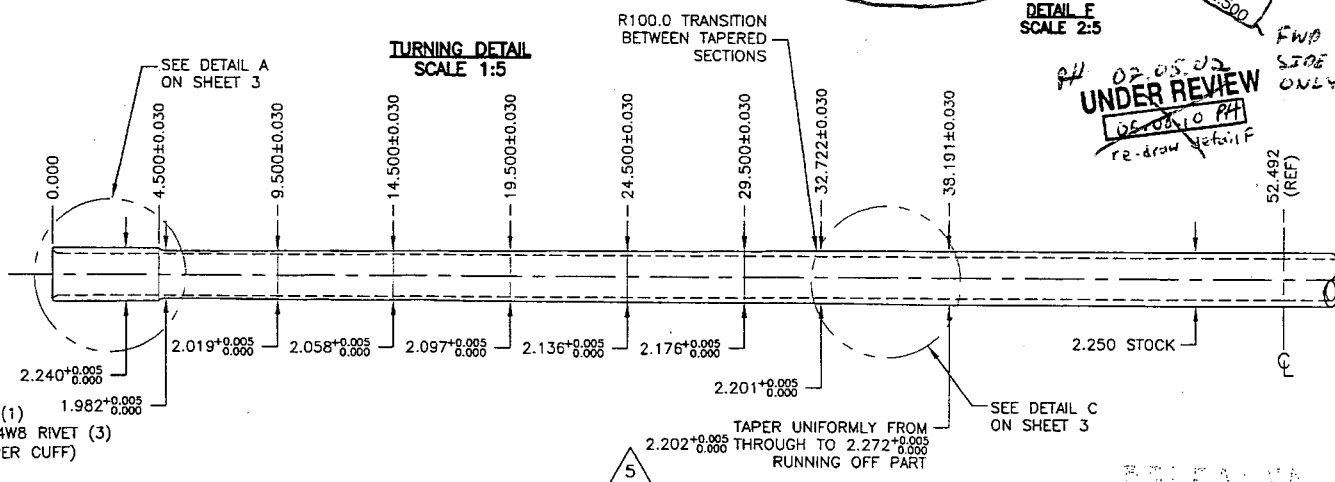
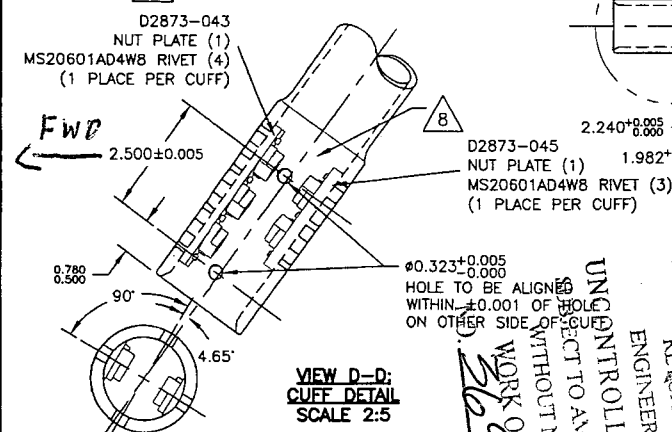
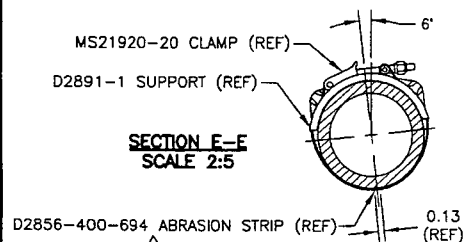
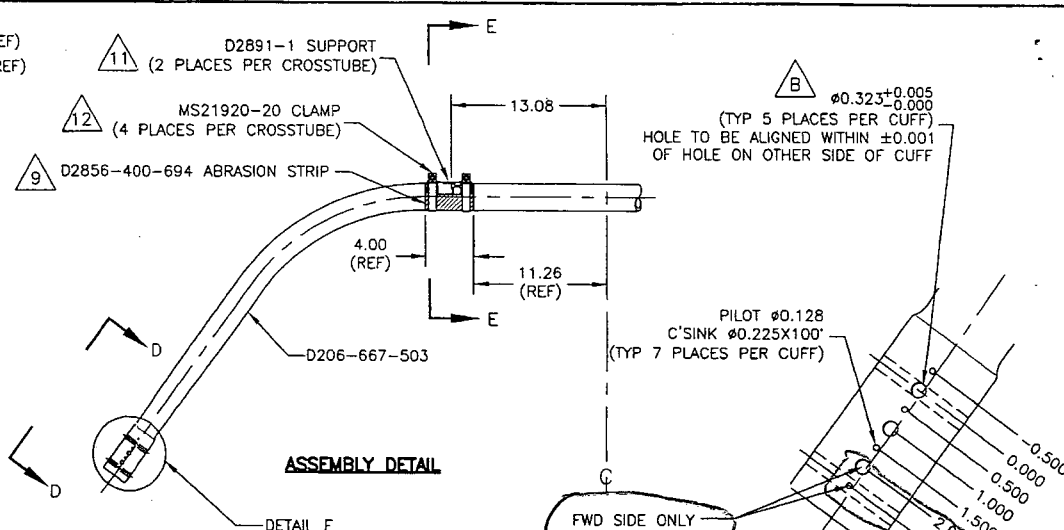
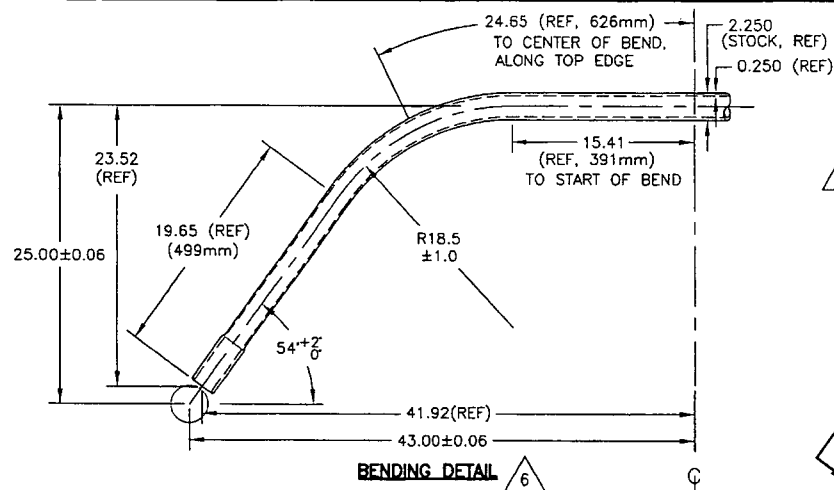
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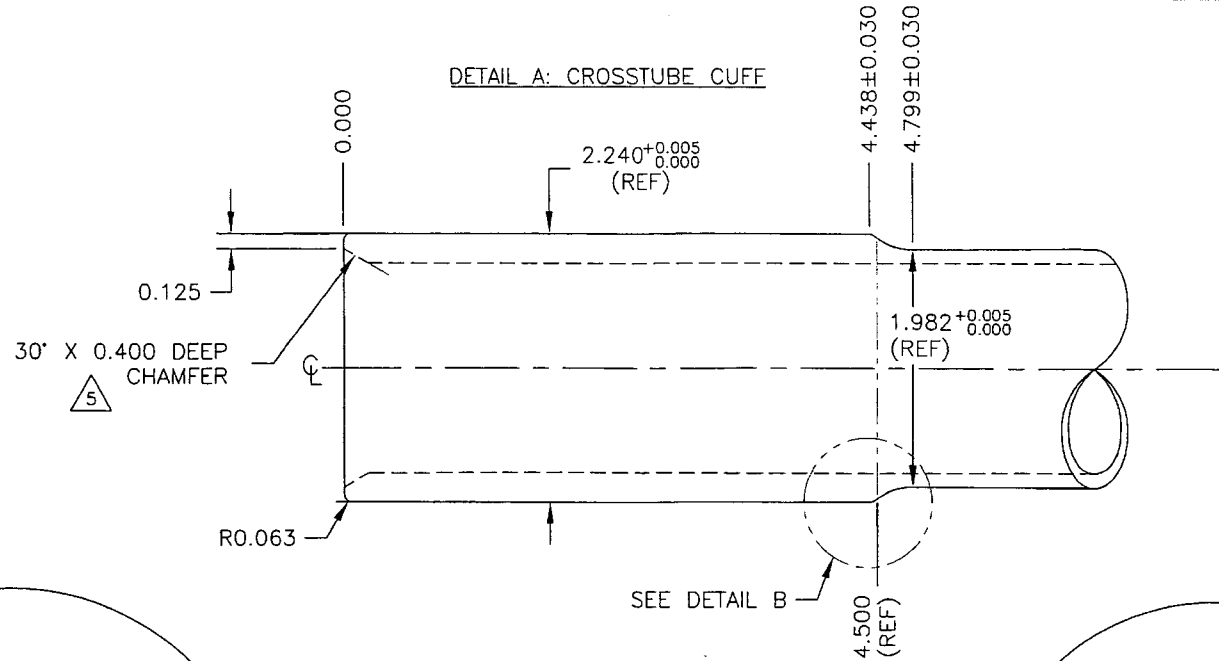




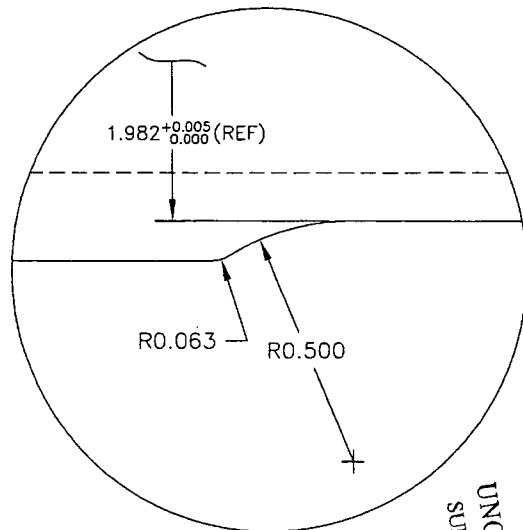
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CHECKED		PH	PH	DRAWING NO.	SHEET 2 OF 3
DS		DS	DS	D206-667-143	
DATE		05.07.26		TITLE	SCALE
				CROSSTUBE ASS'Y (206L HIGH FWD)	1:10

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# DETAIL A: CROSSTUBE CUFF

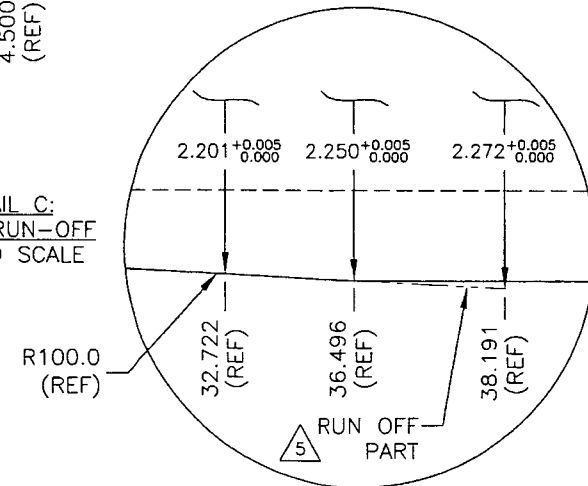


UNDER REVIEW  
05.07.26 PH  
Revised Detail F  
PH 07.05.06



DETAIL B: CUFF  
TRANSITION  
SCALE 4:1

DETAIL C:  
TAPER RUN-OFF  
NOT TO SCALE



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DESIGN PH	DRAWN BY PH	<b>DART</b>	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED HDS	APPROVED HDS	DRAWING NO. D206-667-143	REV. B SHEET 3 OF 3
DATE 05.07.26	TITLE CROSSTUBE ASS'Y (206L HIGH FWD)	SCALE 1:1	





## LIQUID PENETRANT TEST REPORT

P- 08826

PAGE 1 OF 1

CLIENT DART AEROSPACE DATE 18 JUNE 2008 TIME AM ☒ PM ☐  
ATTENTION LINDA LACELLE ACUREN JOB NO. 188-08-1361  
ADDRESS 1270 ABERDEEN ST POWO NO. 6598  
HAWKESBURY ONTARIO WORK LOCATION HAWKESBURY  
ACCEPTANCE STD. ASTM 1417/051-038 REV./DATE 200.5

PROJECT \_\_\_\_\_  
ITEM(S) EXAMINED \_\_\_\_\_

JOB DESCRIPTION \_\_\_\_\_ PROCEDURE NO. LT-0002 REV./DATE \_\_\_\_\_ TECHNIQUE NO. LT-0002 REV./DATE \_\_\_\_\_  
PART NO. D205596107, D206667103BL MATERIAL ALODINED ALUM THICKNESS \_\_\_\_\_  
SCOPE WET FLUORESCENT LIQUID PENETRANT INSPECTION ON 100% OF THE EXTERNAL SURFACE

## TEST DETAILS

METHOD <input checked="" type="checkbox"/> FLUORESCENT <input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH <input type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND <u>MAGNA FLUX</u>	BLACK LIGHT S/N <u>8171</u> <input type="checkbox"/> OUTPUT > 1000 $\mu$ W/cm <sup>2</sup> <input type="checkbox"/> AMBIENT < 2 fc
PENETRANT <u>ZL 67</u> MINIMUM DWELL TIME 10 MIN.	LIGHTING EQUIP. <input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER <u>H2O</u> MINIMUM DRY TIME > 10 MIN.	OTHER <u>CAL JUNE 2008</u>
DEVELOPER <u>SEDS2</u> MINIMUM DWELL TIME 10 MIN.	LIGHT METER S/N _____ CAL DUE DATE _____
DEVELOPER TYPE <input checked="" type="checkbox"/> NON AQUEOUS <input type="checkbox"/> AQUEOUS <input type="checkbox"/> DRY	

## TEST SURFACE

SURFACE CONDITION <input type="checkbox"/> AS GROUND <input type="checkbox"/> AS WELDED <input type="checkbox"/> MACHINED <input type="checkbox"/> SHOT BLASTED <input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE <input type="checkbox"/> < -4°C/ 20°F <input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F <input type="checkbox"/> 10°C/50°F TO 52°C/125°F <input type="checkbox"/> > 52°C/125°F

RESULTS- (☐ METRIC ☒ IMPERIAL)

ITEM	COMMENTS	ACCEPT	REJECT
1PCS 205	JOB# 38794		
1PCS 205	JOB# 38573		
1PCS 205	JOB# 39055		
1PCS 206L	JOB# 39846		
1PCS 206L	JOB# 3985D		
1PCS	NOT FORMED D6008-180		
	BATCH # 38341		

NO INDICATIONS OF DEFECTS  
ITEMS ACCEPTABLE TO STANDARD

## Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

## Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

## SIGNATURES

CLIENT REPRESENTATIVE <u>JASON MURDOCH</u> PRINT	<u>[Signature]</u> SIGNATURE	DTR # _____
TECHNICIAN (SIGNATURE): <u>[Signature]</u>		REPORT REVIEWED BY: _____
NAME (PRINT): <u>JODY BILMER</u>		NAME _____ INITIALS _____
CGSB LEVEL <u>2</u> 1 <sup>ST</sup> TECHNICIAN	CGSB LEVEL _____ 2 <sup>ND</sup> TECHNICIAN	
CGSB REG. NO. <u>9901</u>	CGSB REG. NO. _____	